

(FILE 'HOME' ENTERED AT 17:51:10 ON 22 MAR 2006)

FILE 'CPLUS' ENTERED AT 17:51:23 ON 22 MAR 2006
S 15322-33-5/REG#

FILE 'REGISTRY' ENTERED AT 17:51:41 ON 22 MAR 2006
L1 1 S 15322-33-5/RN

FILE 'CPLUS' ENTERED AT 17:51:41 ON 22 MAR 2006
L2 14 S L1
L3 10 S L2 AND PY<2002

FILE 'REGISTRY' ENTERED AT 17:53:40 ON 22 MAR 2006
L4 1 S 15322-33-5/RN

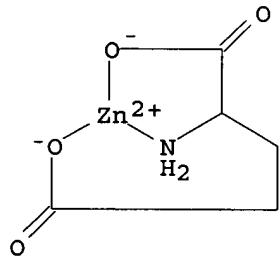
=>

<http://www.cas.org/ONLINE/UG/regprops.html>

=> s 15322-33-5/rn
L4 1 15322-33-5/RN

=> d

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 15322-33-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX
NAME)
OTHER CA INDEX NAMES:
CN Glutamic acid, zinc deriv. (6CI)
CN L-Glutamic acid, zinc complex
CN Zinc, (L-glutamato)- (7CI, 8CI)
CN Zinc, [L-glutamato(2-)-N,O1,O5]-
OTHER NAMES:
CN Zinc glutamate (1:1)
DR 93460-04-9
MF C5 H7 N O4 Zn
CI CCS, COM
LC STN Files: CA, CAOLD, CAPLUS, TOXCENTER, USPAT2, USPATFULL



14 REFERENCES IN FILE CA (1907 TO DATE)
14 REFERENCES IN FILE CAPLUS (1907 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

L2

14 L1

=> s s 12 and py<2002

MISSING OPERATOR S L2

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 12 and py<2002

21808370 PY<2002

L3 10 L2 AND PY<2002

=> d 1-10 ibib abs hitstr

L3 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:308987 CAPLUS

DOCUMENT NUMBER: 138:142307

TITLE: Study on the best conditions for preparation of zinc glutamate

AUTHOR(S): Li, Shangde; Li, Yi; Mo, Lier; Cheng, Hefeng; Guan, Xiongtai; Dongye, Guangzhi

CORPORATE SOURCE: Guangdong Medical College, Zhanjiang, 524023, Peop. Rep. China

SOURCE: Guangdong Weiliang Yuansu Kexue (2001), 8 (12), 54-57

PUBLISHER: Guangdong Weiliang Yuansu Kexue Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Zinc glutamate was synthesized from Na glutamate and ZnO, and characterized by elemental anal., molar conductivity and IR. The yield was 86% under the optimum synthetic conditions: molar ratio of Na glutamate to ZnO 1.2:1, reaction time 5 h, reaction temperature 90°C and crystallization time 7 h.

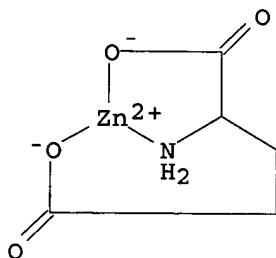
IT 15322-33-5P

RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(best conditions for preparation of zinc glutamate)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX NAME)



L3 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:581169 CAPLUS

DOCUMENT NUMBER: 127:242377

TITLE: Synthesis and properties of amino acid zinc salt

AUTHOR(S): Zhang, Youming; Bai, Junfeng; Lu, Manqing; Lu, Airu
CORPORATE SOURCE: Institute of Chemistry, Northwest Teacher's University, Lanzhou, 730070, Peop. Rep. China

SOURCE: Huaxue Shijie (1997), 38(2), 82-84

PUBLISHER: CODEN: HUAKAB; ISSN: 0367-6358

DOCUMENT TYPE: Shanghaishi Huaxue Huagong Xuehui
Journal

LANGUAGE: Chinese

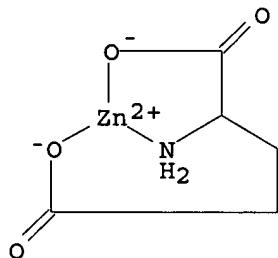
AB Zinc aspartate and zinc glutamate were prepared by refluxing L-aspartic acid and L-glutamic acid with zinc oxide (ZnO) (mol ratio of amino acid/zinc oxide = 1.25/1) in H₂O at pH 7 for 5-6 h, resp. Their structure were determined by IR spectra and element anal. The title compds are good zinc-supplying drugs.

IT 15322-33-5P, Zinc glutamate (1:1)

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and properties of amino acid zinc salt)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX
NAME)



L3 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:994221 CAPLUS

DOCUMENT NUMBER: 124:56710

TITLE: Zinc-free extraction of glutamic acid

INVENTOR(S): Sun, Yunju

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: Faming Zhuanli Shengqing Gongkai Shuomingshu, 5 pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1098088	A	19950201	CN 1993-111392	19930727 <--
PRIORITY APPLN. INFO.:			CN 1993-111392	19930727

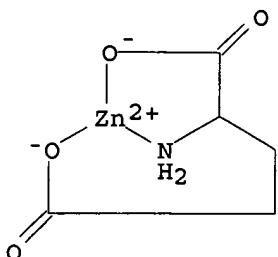
AB Glutamic acid (I) is extracted from a supernatant solution or mother liquor by precipitation of I as I.Zn salt, separation of the upper phase and subject it to cation exchange, and recovery of the Zn ion from the cation-exchange resins. ZnSO₄ was added to I mother liquor, NH₃ was introduced to pH 6.3-6.5, the precipitated I.Zn was separated from the upper phase, which was passed through a cation-exchange resin and the liquid was discharged Zn-free and harmless to the environment. The precipitated I.Zn was dissolved in H₂O and acidified to pH 2.4 to recover crystalline I. The Zn-adsorbed resins were eluted with 8-12% H₂SO₄ to recover Zn²⁺ for recycle.

IT 15322-33-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(Zinc-free extraction of glutamic acid)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX
NAME)



L3 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:522751 CAPLUS
 DOCUMENT NUMBER: 111:122751
 TITLE: Bath for electrodeposition of a gold-copper-zinc alloy
 INVENTOR(S): Emmenegger, Heinz
 PATENT ASSIGNEE(S): Engelhard Industries Ltd., UK
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 304315	A1	19890222	EP 1988-307696	19880819 <--
EP 304315	B1	19930303		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 86313	E	19930315	AT 1988-307696	19880819 <--
US 4980035	A	19901225	US 1989-382011	19890717 <--
PRIORITY APPLN. INFO.:				
			CH 1987-3226	A 19870821
			US 1988-233704	B1 19880818
			EP 1988-307696	A 19880819

OTHER SOURCE(S): MARPAT 111:122751

AB The bath contains CN- complexes of Au, of Cu and of Zn, a surface-active agent and a soluble Te and/or Bi salt. It may also contain a non-cyanide organic Zn complex, and a conductive salt and/or an alkali metal or ammonium cyanide. Deposits formed from the bath are corrosion resistant.

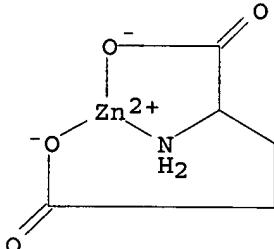
IT 15322-33-5

RL: PRP (Properties)

(electrodeposition of gold-copper-zinc alloys from baths containing)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX NAME)



L3 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:476382 CAPLUS
 DOCUMENT NUMBER: 111:76382
 TITLE: Method for the determination of IgM and IgA immunoglobulins using zinc salts
 INVENTOR(S): Ben-Michael, Abraham
 PATENT ASSIGNEE(S): Savyon Diagnostics Ltd., Israel
 SOURCE: Eur. Pat. Appl., 8 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 261493	A2	19880330	EP 1987-113092	19870908 <--
EP 261493	A3	19890823		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
JP 63133064	A2	19880604	JP 1987-225143	19870908 <--

NO 8703767

A 19880324

NO 1987-3767

19870909 <--

FI 8704080

A 19880324

FI 1987-4080

19870918 <--

DK 8704947

A 19880324

DK 1987-4947

19870921 <--

PRIORITY APPLN. INFO.:

IL 1986-80129

A 19860923

AB A method for the determination of IgM and IgA antibodies in blood serum involves removing the IgG and rheumatoid factor (RF) by precipitation with Zn²⁺, separating the liquid from the precipitate, and testing the liquid for IgM and IgA antibodies by immunoassay. Zn diglycinate (I) was prepared by treating ZnO with glycine, and adding Zn(OAc)₂. Human serum was tested by the immunoperoxidase assay (IPA) for the presence of antibodies to Chlamydia trachomatis; the IgG titer was 1:512 and no IgM was detected. The sample was diluted 1:10 with Tris to give 200 µL solution, an equal volume of 0.5 M I was added, and the sample was vortexed, and stored at 4° for 1 h. The sample was centrifuged and the liquid was subjected to the IPA. No IgG was detected, whereas the IgM titer was 1:128 and the IgA titer was 1:64. About 20% of the IgM and 15% of the IgA originally present in the sample were removed by the I treatment. When the same test was repeated using protein A as the precipitation reagent, the IgM titer was 1:128 and the IgA titer was 1:16.

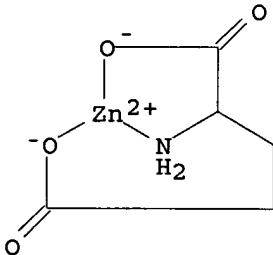
IT 15322-33-5

RL: BIOL (Biological study)

(precipitation by, of IgG antibody and rheumatoid factor, for determination of IgM and IgA antibodies in blood serum)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX NAME)



L3 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1986:181241 CAPLUS

DOCUMENT NUMBER: 104:181241

TITLE:

Computer simulation models for the low-molecular-weight complex distribution of cadmium(II) and nickel(II) in human blood plasma
 Cole, Alun; Furnival, Christopher; Huang, Z. X.; Jones, D. Ceri; May, Peter M.; Smith, Gillian L.; Whittaker, Jill; Williams, David R.

CORPORATE SOURCE: Inst. Sci. Technol., Univ. Wales, Cardiff, CF1 3XF, UK

SOURCE: Inorganica Chimica Acta (1985), 108(3), 165-71

DOCUMENT TYPE: CODEN: ICHAA3; ISSN: 0020-1693

LANGUAGE: English

AB A computer simulation investigation into the nature of Cd(II) and Ni(II) binding by low-mol.-weight ligands in human blood plasma is described. The distribution of these metal ions among the complexes formed with nearly 50 ligands was computed. The most important formation consts. required for the calcns. were determined exptl. under biol. conditions. The predominant complexes formed by Cd(II) are binary cysteinate species, whereas Ni(II) exists mainly as a ternary complex involving both cysteinate and histidinate.

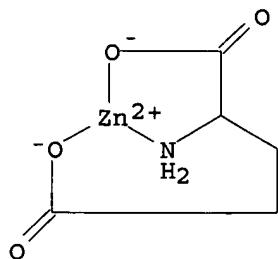
IT 15322-33-5

RL: FORM (Formation, nonpreparative)

(formation of, in human blood plasma, computer simulation models for)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX NAME)



L3 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983:67492 CAPLUS

DOCUMENT NUMBER: 98:67492

TITLE:

Histamine as a ligand in blood plasma. Part 6.
Aspartate and glutamate as possible partner ligands
for zinc and histamine to favor histamine catabolism

AUTHOR(S): Berthon, Guy; Germonneau, Philippe

CORPORATE SOURCE: Lab. Chim. Electrochim. Interact., Poitiers, F-86022,
Fr.

SOURCE: Agents and Actions (1982), 12(5-6), 619-29
CODEN: AGACBH; ISSN: 0065-4299

DOCUMENT TYPE: Journal

LANGUAGE: English

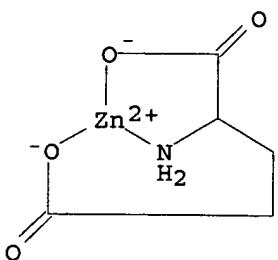
AB It has been proposed that any partner ligand for Zn and histamine (I) in which raising its plasma concentration would entail a better mobilization of I into neutral diffusible metal complexes would favor I catabolism. Such a role was envisaged for aspartate and glutamate, and their efficiency in this respect was tested by computer simulations, using the equilibrium consts. of the corresponding Zn-I-aspartate and Zn-I-glutamate complexes determined under standard plasma conditions. Aspartate and glutamate plasma concns. would have to be raised 1000- and 400-fold over their resp. normal levels before the combination of each of these amino acids with Zn would become more efficient than the effect of Zn alone.

IT 15322-33-5

RL: PRP (Properties)
(formation constant of)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX
NAME)



L3 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1971:83161 CAPLUS

DOCUMENT NUMBER: 74:83161

TITLE: Computed distribution of copper(II) and zinc(II) ions
among seventeen amino acids present in human blood
plasma

AUTHOR(S): Hallman, P. S.; Perrin, Douglas D.; Watt, Ann E.
CORPORATE SOURCE: John Curtin Sch. Med. Res., Aust. Natl. Univ.,

Canberra, Australia

SOURCE: Biochemical Journal (1971), 121(3), 549-55
CODEN: BIJOAK; ISSN: 0264-6021

DOCUMENT TYPE: Journal

LANGUAGE: English

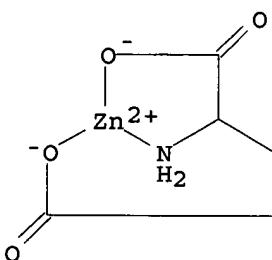
AB The equilibrium distribution of Cu(II) and Zn(II) ions among a mixture of 17 amino acids was computed from stability-constant and blood-plasma-composition data. At pH 7.4, 98 of the Cu(II) in the simulated plasma solution is coordinated to histidine and cystine, predominantly as mixed-ligand complexes. Approx. half of the Zn(II) is coordinated to cysteine and histidine, but appreciable complex-formation occurs with most of the other amino acids. Stability consts. are given for Cu(II) and Zn(II) amino acid complexes, including some mixed-ligand species, at 37° and I = 0.15M.

IT 15322-33-5, Zinc, (L-glutamato)-

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of blood plasma)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX
NAME)



L3 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1970:459668 CAPLUS

DOCUMENT NUMBER: 73:59668

TITLE: Solubility and properties of equilibrium solutions in the sodium L-glutamate-zinc chloride-water system

AUTHOR(S): Potemko, L. I.; Bakasova, Z. B.; Druzhinin, I. G.

CORPORATE SOURCE: Inst. Org. Khim., Frunze, USSR

SOURCE: Izvestiya Akademii Nauk Kirgizskoi SSR (1969
, (5), 56-61

DOCUMENT TYPE: CODEN: INKSAD; ISSN: 0002-3221

LANGUAGE: Journal

Russian

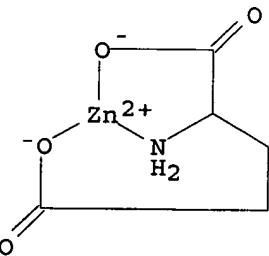
AB In the above system, the formation of two new compds., Zn di-Na diglutamate and Zn glutamate, was ascertained. The compds. were isolated, and their phys. properties (d., n, solubility, dissociation constant, ir spectra, and x-ray patterns) were measured.

IT 15322-33-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 15322-33-5 CAPLUS

CN Zinc, [L-glutamato(2-)-κN,κO1,κO5]- (9CI) (CA INDEX
NAME)



L3 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1954:61567 CAPLUS

DOCUMENT NUMBER: 48:61567

ORIGINAL REFERENCE NO.: 48:10937b-c

TITLE: The effect of zinc compounds upon blood sugar

AUTHOR(S): Weitzel, Gunther; Stracker, Franz Josef; Roester, Ursula

CORPORATE SOURCE: Max Planck Ges., Gottingen, Germany

SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1953), 292, 286-302

CODEN: HSZPAZ; ISSN: 0018-4888

DOCUMENT TYPE: Journal

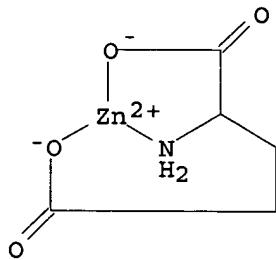
LANGUAGE: Unavailable

AB The following Zn salts were injected intravenously into dogs at doses from 1 mg. to 0.001 γ /kg. body weight, and their influence upon the blood-sugar content (I) was observed: Cl-, SO₄--, OAc-, pyrophosphate gluconate, glucuronate, maleate, pyruvate, citrate, tartrate, malate, and ascorbate. The Zn complexes (II) of glycine, alanine, and glutamic acid were given in doses from a few mg./kg. down to 0.0001 γ /kg. The N-free salts raised I initially but caused no recurrence. Severity was independent of dosage. II in doses above 1 mg./kg. caused toxic hyperglycemia and glycosuria. Strongly complexed Zn was ineffective in raising I.

IT 15322-33-5, Glutamic acid, zinc derivative
(effect on blood sugar)

RN 15322-33-5 CAPLUS

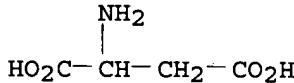
CN Zinc, [L-glutamato(2-)- κ N, κ O1, κ O5]- (9CI) (CA INDEX
NAME)



=> `s aspartic acid/cn
L5 2 ASPARTIC ACID/CN

=> d 1-2

L5 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN
RN 617-45-8 REGISTRY
ED Entered STN: 16 Nov 1984
CN Aspartic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Aspartic acid, DL- (8CI)
CN DL-Aspartic acid
OTHER NAMES:
CN (±)-Aspartic acid
CN (RS)-Aspartic acid
CN Aminosuccinic acid
CN DL-Aminosuccinic acid
CN NSC 141379
FS 3D CONCORD
MF C4 H7 N O4
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAPLUS,
CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*,
DIOGENES, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS,
NAPRALERT, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA,
USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1219 REFERENCES IN FILE CA (1907 TO DATE)
77 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1221 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN
RN 56-84-8 REGISTRY
ED Entered STN: 16 Nov 1984
CN L-Aspartic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Aspartic acid, L- (8CI)
OTHER NAMES:
CN (+)-Aspartic acid
CN (S)-Aminobutanedioic acid
CN (S)-Aspartic acid
CN 75: PN: WO2005016244 PAGE: 71 claimed protein
CN 7: PN: US20050014160 SEQID: 7 claimed protein
CN Asparagic acid
CN Asparaginic acid
CN Aspartic acid
CN Butanedioic acid, amino-, (S)-
CN H-Asp-OH
CN L-(+)-Aspartic acid
CN L-Aminosuccinic acid
CN L-Asparagic acid
CN L-Asparaginic acid
CN NSC 3973
CN NSC 79553
FS STEREOSEARCH
DR 6899-03-2, 181119-33-5

MF C4 H7 N 04

CI COM

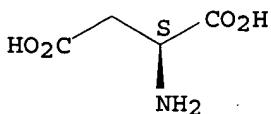
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**, WHO

(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

40130 REFERENCES IN FILE CA (1907 TO DATE)

1307 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

40201 REFERENCES IN FILE CAPLUS (1907 TO DATE)

3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> s glutamic acid/cn

L6 2 GLUTAMIC ACID/CN

=> d

L6 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN

RN 617-65-2 REGISTRY

ED Entered STN: 16 Nov 1984

CN Glutamic acid (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN DL-Glutamic acid

CN Glutamic acid, DL- (8CI)

OTHER NAMES:

CN (±)-Glutamic acid

CN Glutaminic acid

CN NSC 206301

CN NSC 9967

FS 3D CONCORD

MF C5 H9 N 04

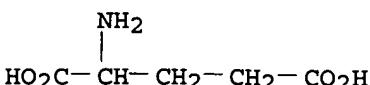
CI COM

LC STN Files: ADISNEWS, AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, DIOGENES, GMELIN*, IFICDB, IFIPAT, IFIUDB, MRCK*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

965 REFERENCES IN FILE CA (1907 TO DATE)

48 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

```

=> s copper glutamate/cn
L23          0 COPPER GLUTAMATE/CN

=> e copper glutamate/cn
E1          1 COPPER GLUCONATE-CYMOXANIL MIXT./CN
E2          1 COPPER GLUTACONATE/CN
E3          0 --> COPPER GLUTAMATE/CN
E4          1 COPPER GLUTAMINE/CN
E5          1 COPPER GLUTARATE/CN
E6          1 COPPER GLUTATHIONATE/CN
E7          1 COPPER GLYCINATE/CN
E8          1 COPPER GLYCOLATE/CN
E9          1 COPPER GOLD (CU3AU)/CN
E10         1 COPPER GOLD AU3CU/CN
E11         1 COPPER GOLD CHLORIDE (CU2AUCL3)/CN
E12         1 COPPER GOLD IODIDE (CU3AUI)/CN

=> e manganeser glutamate/cn
E1          3 MANGANESE/IRON TRANSPORTER, NRAMP FAMILY (BURKHOLDERIA MALLE
I STRAIN ATCC 23344)/CN
E2          1 MANGANESEALUMINUM/CN
E3          0 --> MANGANESER GLUTAMATE/CN
E4          1 MANGANESETRIMETHYLHEPTANOATE/CN
E5          1 MANGANFAYALITE/CN
E6          1 MANGANFLUORAPATITE/CN
E7          1 MANGANGEHLENITE (AL2Mn2O3(SIO4))/CN
E8          1 MANGANGORDONITE/CN
E9          1 MANGANGORDONITE, AL2Mn(OH)2(PO4)2.8H2O/CN
E10         1 MANGANGORDONITE, FERROAN (AL2(MN0.5-0.9FE0.1-0.5)(OH)2(PO4)2
.8H2O)/CN
E11         1 MANGANHEDENBERGITE/CN
E12         1 MANGANHISINGERITE/CN

=> e manganese glutamate/cn
E1          1 MANGANESE GLUCONATE/CN
E2          1 MANGANESE GLUCONATE 1.5 HYDRATE/CN
E3          0 --> MANGANESE GLUTAMATE/CN
E4          1 MANGANESE GLUTARATE/CN
E5          1 MANGANESE GLUTARATE TETRAHYDRATE/CN
E6          1 MANGANESE GLYCEROL PHOSPHATE/CN
E7          2 MANGANESE GLYCEROPHOSPHATE/CN
E8          1 MANGANESE GLYCEROPHOSPHATE HYDRATE/CN
E9          1 MANGANESE GLYCEROPHOSPHATE, SOLUBLE/CN
E10         1 MANGANESE GLYCOLATE/CN
E11         1 MANGANESE GOLD NITRIDE (AUMN3N)/CN
E12         1 MANGANESE GRAPHITE/CN

=>

=> e iron glutamate/cn
E1          1 IRON GLUCONATE/CN
E2          1 IRON GLUCURONATE (FE(C6H9O7)2)/CN
E3          0 --> IRON GLUTAMATE/CN
E4          2 IRON GLYCEROPHOSPHATE/CN
E5          1 IRON GLYCEROPHOSPHATE (FE(O6PC3H8)3)/CN
E6          1 IRON GLYCINATE/CN
E7          1 IRON GLYCYRRHIZATE/CN
E8          1 IRON GRAPHITE/CN
E9          1 IRON GRAPHITE (FEC24)/CN
E10         1 IRON GRAPHITE CHLORIDE/CN
E11         1 IRON GRAPHITE CHLORIDE (FE2C36CL7)/CN
E12         1 IRON GRAPHITE NITRATE (C45FE(NO3)3)/CN

=> e cobalt glutamate/cn
E1          1 COBALT GERMANIUM ZINC PHOSPHIDE ((CO,ZN)GEP2)/CN
E2          1 COBALT GERMANIUM ZINC PHOSPHIDE (CO0.2GEZN0.8P2)/CN
E3          0 --> COBALT GLUTAMATE/CN
E4          1 COBALT GLUTARATE (CO(C2H6O4))/CN

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E5 1 COBALT GLUTATHIONATE/CN
E6 1 COBALT GLYCINATE/CN
E7 1 COBALT GLYCINE/CN
E8 1 COBALT GLYCOLATE/CN
E9 1 COBALT GOLD IRON OXIDE TELLURATE (COO.21AU4.58FE2.03O3.04(TE
O4)1.74)/CN
E10 1 COBALT GOLD MAGNESIUM TITANIUM HYDROXIDE OXIDE (COO.2AU0.01M
G0.05TIO.79(OH)0-3.16O0-1.58)/CN
E11 1 COBALT GOLD SILICIDE (CO2AUSI)/CN
E12 1 COBALT GOLD SODIUM OXIDE (COAUNA4O5)/CN

=> e nickel glutamate/cn
E1 1 NICKEL GERMANIUM OXIDE (NI2GEO4)/CN
E2 1 NICKEL GLEAM/CN
E3 0 --> NICKEL GLUTAMATE/CN
E4 1 NICKEL GLYCOLATE/CN
E5 1 NICKEL GRAPHITE/CN
E6 1 NICKEL GRAPHITE (CNI3)/CN
E7 1 NICKEL GRAPHITE (NIC16)/CN
E8 1 NICKEL GRAPHITE FLUORIDE (NIC19F3)/CN
E9 1 NICKEL HADFIELD STEEL/CN
E10 1 NICKEL HAFNIUM (NI7HF2)/CN
E11 1 NICKEL HAFNIUM BORIDE (HF2NI21B6)/CN
E12 1 NICKEL HAFNIUM SILICIDE/CN

=> e vanadium glutamate/cn
E1 1 VANADIUM GERMANIDE (V0.76GE0.24)/CN
E2 1 VANADIUM GERMANIDE (V3GE)/CN
E3 0 --> VANADIUM GLUTAMATE/CN
E4 1 VANADIUM HEPTASULFIDE CLUSTER ION(VS7+)/CN
E5 1 VANADIUM HEXACARBONYL/CN
E6 1 VANADIUM HEXACHLOROSTANNATE (IV), COMPD. WITH ACETONITRILE/CN
E7 1 VANADIUM HEXASULFIDE CLUSTER ION(VS61+)/CN
E8 1 VANADIUM HYDRIDE/CN
E9 1 VANADIUM HYDRIDE (V20H9)/CN
E10 1 VANADIUM HYDRIDE (V2D)/CN
E11 1 VANADIUM HYDRIDE (V2H)/CN
E12 1 VANADIUM HYDRIDE (V2T3)/CN

=> e molybdenum glutamate/cn
E1 1 MOLYBDENUM GERMANIDE NITRIDE/CN
E2 1 MOLYBDENUM GERMANIUM ARSENIDE (MOGEAS)/CN
E3 0 --> MOLYBDENUM GLUTAMATE/CN
E4 1 MOLYBDENUM GLUTARATE/CN
E5 1 MOLYBDENUM GRAPHITE/CN
E6 1 MOLYBDENUM HEX-CEM/CN
E7 1 MOLYBDENUM HEXABROMIDE/CN
E8 1 MOLYBDENUM HEXACARBONYL/CN
E9 1 MOLYBDENUM HEXACARBONYL (MO(CO)6)/CN
E10 1 MOLYBDENUM HEXACARBONYL CATION/CN
E11 1 MOLYBDENUM HEXACARBONYL-99MO/CN
E12 1 MOLYBDENUM HEXACARBONYLBIS (CYCLOHEXYLCYCLOPENTADIENYL) DI-/CN

=> e molybdenum aspartate/cn
E1 1 MOLYBDENUM ARSENITE OXIDE (MO3(ASO3)4O3)/CN
E2 1 MOLYBDENUM ASCORBATE/CN
E3 0 --> MOLYBDENUM ASPARTATE/CN
E4 1 MOLYBDENUM ATP-BINDING ABC TRANSPORT PROTEIN (SHEWANELLA ONE
IDENSIS STRAIN MR-1 GENE SO4446)/CN
E5 1 MOLYBDENUM AZIDE (MO(N3)6), (OC-6-11)-/CN
E6 1 MOLYBDENUM AZIDE BROMIDE (MO(N3)BR3)/CN
E7 1 MOLYBDENUM AZIDE CHLORIDE (MO(N3)2CL4)/CN
E8 1 MOLYBDENUM AZIDE FLUORIDE (MO(N3)2F4), (OC-6-22)-/CN
E9 1 MOLYBDENUM AZIDE IODIDE (MO(N3)I2)/CN
E10 1 MOLYBDENUM BENZOATE/CN
E11 1 MOLYBDENUM BENZOATE CHLORIDE (MO(BZO)2CL3)/CN
E12 1 MOLYBDENUM BERYLLIDE (MOBE2)/CN

=> e vanadium aspartate/cn

E1 1 VANADIUM ARSENIDE CARBIDE (V3ASC) /CN
E2 1 VANADIUM ARSENIDE NITRIDE (V3ASN) /CN
E3 0 --> VANADIUM ASPARTATE/CN
E4 1 VANADIUM AZIDE (V(N3)3) /CN
E5 1 VANADIUM AZIDE CHLORIDE (V(N3)CL4) /CN
E6 1 VANADIUM AZIDE OXIDE (V(N3)2O) /CN
E7 1 VANADIUM BENZOATE/CN
E8 1 VANADIUM BIS(ACETYLACETONATE) /CN
E9 1 VANADIUM BLACK/CN
E10 1 VANADIUM BLUE/CN
E11 1 VANADIUM BORATE/CN
E12 1 VANADIUM BORATE (VBO3) /CN

=> e nickel aspartate/cn
E1 1 NICKEL ARSENITE (NI3(ASO2)4O) /CN
E2 1 NICKEL ARSENITE (NI3(ASO3)2) /CN
E3 0 --> NICKEL ASPARTATE/CN
E4 1 NICKEL AURATE(III) /CN
E5 1 NICKEL AZIDE (NI(N3)2) /CN
E6 1 NICKEL AZIDE HYDROXIDE (NI(N3)(OH)) /CN
E7 1 NICKEL AZO GREEN/CN
E8 1 NICKEL AZO YELLOW/CN
E9 1 NICKEL BACTERIOCHLOROPHYLL A/CN
E10 1 NICKEL BALANCE, SELENIUM 0.25, TELLURIUM 0.25 (ATOMIC) /CN
E11 1 NICKEL BALANCE, SELENIUM 12.5, TELLURIUM 12.5 (ATOMIC) /CN
E12 1 NICKEL BALANCE, SELENIUM 15, TELLURIUM 15 (ATOMIC) /CN

=> e cobalt aspartate/cn
E1 1 COBALT ARSENIDE SULFIDE (COASS) /CN
E2 1 COBALT ARSENITE (CO3(AS(OH)3)2) /CN
E3 0 --> COBALT ASPARTATE/CN
E4 1 COBALT ASTRAKHANITE/CN
E5 1 COBALT ATP/CN
E6 1 COBALT ATP TRANSPORTER, , ATP-BINDING PROTEIN (STREPTOCOCCUS AGALACTIAE STRAIN A909) /CN
E7 1 COBALT AURATE(III) /CN
E8 1 COBALT AZIDE/CN
E9 1 COBALT AZIDE (CO(N3)2) /CN
E10 1 COBALT AZIDE (CO(N3)3) /CN
E11 1 COBALT AZIDE HYDROXIDE (CO(N3)(OH)) /CN
E12 1 COBALT AZIDOSULFITOBIS(ETHYLENEDIAMINE) - /CN

=> e iron aspartate/cn
E1 1 IRON ARSENOPARANUCLEATE/CN
E2 1 IRON ASCORBATE/CN
E3 0 --> IRON ASPARTATE/CN
E4 1 IRON AURATE(III) (FEAU3(OH)12) /CN
E5 1 IRON AZIDE (FE(N3)2) /CN
E6 1 IRON AZIDE (FE(N3)3) /CN
E7 1 IRON AZIDE BROMIDE/CN
E8 1 IRON AZIDE BROMIDE (FE(N3)BR) /CN
E9 1 IRON AZIDE CHLORIDE/CN
E10 1 IRON AZIDE CHLORIDE (FEN3CL) /CN
E11 1 IRON BALANCE, LANTHANUM 0.3, NITROGEN 13.5, SAMARIUM 9.1 (ATOMIC) /CN
E12 1 IRON BALANCE, LANTHANUM 0.5, NITROGEN 13.3, SAMARIUM 9.2 (ATOMIC) /CN

=> e manganese aspartate/cn
E1 1 MANGANESE ARSENITE CHLORIDE HYDROXIDE (MN10(ASO3)6CL(OH)) /CN
E2 1 MANGANESE ASCORBATE/CN
E3 0 --> MANGANESE ASPARTATE/CN
E4 1 MANGANESE ATP (1:2) /CN
E5 1 MANGANESE AURATE(III) /CN
E6 1 MANGANESE AZELATE/CN
E7 1 MANGANESE AZELATE MONOHYDRATE/CN
E8 1 MANGANESE AZIDE (MN(N3)2) /CN
E9 1 MANGANESE AZIDE HYDROXIDE (MN(N3)(OH)) /CN
E10 1 MANGANESE BACTERIOCHLOROPHYLL A/CN

E11 1 MANGANESE BARIUM IRON OXIDE (BA2MN2FE12O22) /CN
 E12 1 MANGANESE BARIUM NIOBIUM OXIDE (BA2MNNBO6) /CN

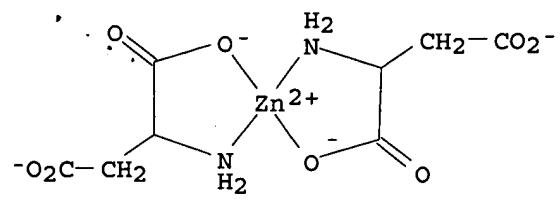
 => e copper aspartate/cn
 E1 1 COPPER ARSENOTRITHIOITE SULFIDE (CU5(ASS3)S) /CN
 E2 1 COPPER ARSONATE/CN
 E3 0 --> COPPER ASPARTATE/CN
 E4 1 COPPER ASPIRIN/CN
 E5 1 COPPER ATP-BINDING ABC TRANSPORTER (MEGAPLASMID PHG1 GENE NO SF) /CN
 E6 1 COPPER ATP-BINDING ABC TRANSPORTER PROTEIN (RALSTONIA SOLANA CEARUM STRAIN GMI1000 GENE NOSF) /CN
 E7 1 COPPER AURATE(III) /CN
 E8 1 COPPER AZIDE (CU(N3)) /CN
 E9 1 COPPER AZIDE (CU(N3)2) /CN
 E10 1 COPPER AZIDE (CU(OH)(N3)) /CN
 E11 1 COPPER AZIDE (CUN6) /CN
 E12 1 COPPER AZIDE HYDROXIDE (CU(OH)(N3)) /CN

 => e zinc aspartate/cn
 E1 1 ZINC ASCORBATE/CN
 E2 1 ZINC ASPARAGINATE/CN
 E3 1 --> ZINC ASPARTATE/CN
 E4 1 ZINC ASTRAKHANITE/CN
 E5 1 ZINC AURATE(III) /CN
 E6 1 ZINC AZELATE/CN
 E7 1 ZINC AZIDE/CN
 E8 1 ZINC AZIDE (ZN(N3)2) /CN
 E9 1 ZINC AZIDE (ZN(N3)2), COMPD. WITH PYRIDINE (1:2) /CN
 E10 1 ZINC AZIDE (ZN(N3)2), DIHYDRATE/CN
 E11 1 ZINC AZIDE (ZN(N3)2), HYDRATE/CN
 E12 1 ZINC AZIDE (ZN(N3)2), HYDRATE (2:5) /CN

 => s e3
 L24 1 "ZINC ASPARTATE" /CN

 => d

 L24 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 36393-20-1 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Zincate(2-), bis[L-aspartato(2-)-κN,κO1]-, dihydrogen, (T-4) - (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN L-Aspartic acid, zinc complex
 CN Zincate(2-), bis[L-aspartato(2-)-N,O1]-, dihydrogen, (T-4) -
 OTHER NAMES:
 CN Oksirich
 CN Unizink 50
 CN Zinc aspartate
 CN Zincas Forte
 MF C8 H10 N2 O8 Zn . 2 H
 CI CCS, COM
 LC STN Files: BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, DDFU, DRUGU, EMBASE, IPA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATEFULL
 (*File contains numerically searchable property data)
 Other Sources: EINECS**
 (**Enter CHEMLIST File for up-to-date regulatory information)
 CRN (771413-99-1)



● 2 H⁺

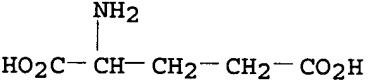
71 REFERENCES IN FILE CA (1907 TO DATE)

71 REFERENCES IN FILE CAPLUS (1907 TO DATE)

967 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d 1-2

L6 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 617-65-2 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Glutamic acid (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN DL-Glutamic acid
 CN Glutamic acid, DL- (8CI)
 OTHER NAMES:
 CN (±)-Glutamic acid
 CN Glutaminic acid
 CN NSC 206301
 CN NSC 9967
 FS 3D CONCORD
 MF C5 H9 N 04
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, DIOGENES, GMELIN*, IFICDB, IFIPAT, IFIUDB, MRCK*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



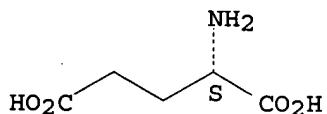
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

965 REFERENCES IN FILE CA (1907 TO DATE)
 48 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 967 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 56-86-0 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN L-Glutamic acid (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Glutamic acid, L- (7CI, 8CI)
 OTHER NAMES:
 CN (2S)-2-Aminopentanedioic acid
 CN (S)-(+)-Glutamic acid
 CN (S)-2-Aminopentanedioic acid
 CN (S)-Glutamic acid
 CN α-Aminoglutaric acid
 CN α-Glutamic acid
 CN 1-Aminopropane-1,3-dicarboxylic acid
 CN 2-Aminoglutaric acid
 CN 2-Aminopentanedioic acid
 CN 80: PN: WO2005016244 PAGE: 71 claimed protein
 CN Aciglut
 CN E 620
 CN Glusate
 CN Glutacid
 CN Glutamic acid
 CN Glutamicol
 CN Glutamidex
 CN Glutaminic acid
 CN Glutaminol
 CN Glutaton
 CN L-(+)-Glutamic acid

CN L- α -Aminoglutamic acid
CN L-Glutaminic acid
CN L-Glutaminic acid
CN NSC 143503
CN Pentanedioic acid, 2-amino-, (S)-
FS STEREOSEARCH
DR 6899-05-4, 10549-13-0, 138-16-9
MF C5 H9 N O4
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS,
BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX,
CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU,
EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*,
IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT,
NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE,
TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
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Other Sources: DSL**, EINECS**, TSCA**, WHO
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Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

65161 REFERENCES IN FILE CA (1907 TO DATE)
2150 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
65257 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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